SANTA CRUZ BIOTECHNOLOGY, INC.

USP30 (B-6): sc-515235

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. USP30 (ubiquitin specific peptidase 30) is a 517 amino acid protein that localizes to the mitochondrion and belongs to the ubiquitin-specific protease family. Expressed in pancreas, kidney, liver and skeletal muscle, USP30 functions to catalyze the conversion of a ubiquitin C-terminal thioester to a free ubiquitin and a thiol. The gene encoding USP30 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

CHROMOSOMAL LOCATION

Genetic locus: USP30 (human) mapping to 12q24.11.

SOURCE

USP30 (B-6) is a mouse monoclonal antibody raised against amino acids 167-466 mapping within an internal region of USP30 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USP30 (B-6) is available conjugated to agarose (sc-515235 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515235 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515235 PE), fluorescein (sc-515235 FITC), Alexa Fluor® 488 (sc-515235 AF488), Alexa Fluor® 546 (sc-515235 AF546), Alexa Fluor® 594 (sc-515235 AF594) or Alexa Fluor® 647 (sc-515235 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515235 AF680) or Alexa Fluor® 790 (sc-515235 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

USP30 (B-6) is recommended for detection of USP30 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for USP30 siRNA (h): sc-96007, USP30 shRNA Plasmid (h): sc-96007-SH and USP30 shRNA (h) Lentiviral Particles: sc-96007-V.

Molecular Weight of USP30: 59 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, MOLT-4 cell lysate: sc-2233 or Hep G2 cell lysate: sc-2227.

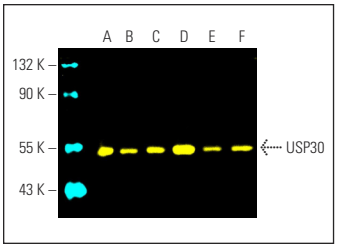
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

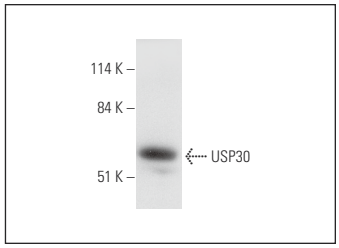
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



USP30 (B-6) Alexa Fluor® 488: sc-515235 AF488. Direct fluorescent western blot analysis of USP30 expression in HEK293 (**A**), Hep G2 (**B**), U-698-M (**C**), T-47D (**D**), U-266 (**E**) and MOLT-4 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



USP30 (B-6): sc-515235. Western blot analysis of USP30 expression in MIA PaCa-2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ordureau, A., et al. 2020. Global landscape and dynamics of Parkin and USP30-dependent ubiquitylomes in iNeurons during mitophagic signaling. Mol. Cell 77: 1124-1142.e10.
2. Tsefou, E., et al. 2021. Investigation of USP30 inhibition to enhance Parkin-mediated mitophagy: tools and approaches. Biochem. J. 478: 4099-4118.
3. Ordureau, A., et al. 2021. Temporal proteomics during neurogenesis reveals large-scale proteome and organelle remodeling via selective autophagy. Mol. Cell 81: 5082-5098.e11.
4. Culver, J.A., et al. 2021. Deubiquitinases USP20/33 promote the biogenesis of tail-anchored membrane proteins. J. Cell Biol. 220: e202004086.
5. König, T., et al. 2021. MIROs and DRP1 drive mitochondrial-derived vesicle biogenesis and promote quality control. Nat. Cell Biol. 23: 1271-1286.
6. Qin, X., et al. 2022. Identification of an autoinhibitory, mitophagy-inducing peptide derived from the transmembrane domain of USP30. Autophagy 18: 2178-2197.
7. Fang, T.Z., et al. 2023. Knockout or inhibition of USP30 protects dopaminergic neurons in a Parkinson's disease mouse model. Nat. Commun. 14: 7295.
8. Sun, K., et al. 2024. USP30 promotes the progression of breast cancer by stabilising Snail. Cancer Gene Ther. 31: 472-483.
9. Yan, J., et al. 2024. Macrophage NRF1 promotes mitochondrial protein turnover via the ubiquitin proteasome system to limit mitochondrial stress and inflammation. Cell Rep. 43: 114780.
10. Ikeda, H., et al. 2025. Immune evasion through mitochondrial transfer in the tumour microenvironment. Nature 638: 225-236.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.